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Caruso, H.J., A Detailed Comparison of MIL-STD-810E and MIL-STD-810D, Part I, Sections 1 Through 6, No. 2, p. 38. *A detailed description of the changes and associated rationale between MIL-STD-810E and MIL-STD-810D is presented. Sections 1 Through 6 and Appendix A (Data Item Descriptions) are discussed.* (DTE Criteria and Standards, Design/Test Tailoring)

Caruso, H.J., A Detailed Comparison of MIL-STD-810E and MIL-STD-810D, Part II, Climatics: Test Methods 500.3 Through 512.3, No. 4, p. 38. *Low Pressure, High temperature, Low Temperature, Temperature Shock, Solar Radiation, Rain, Humidity, Fungus, Salt Fog, Sand and Dust, Explosive Atmosphere, and Leakage.* (DTE Climatics and Thermal, Criteria and Standards, Design/Test Tailoring)

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Cooper, Dr. D.W., A Sequential Sampling Plan for Federal Standard 209, No. 5, p. 28. *A sequential sampling plan is developed to match the operating characteristic (OC) curve of the Federal Standard 209D single sampling plan as a possible revision to the Standard* (CC Criteria and Standards, Identification, Measurement, and Monitoring)

Cooper, Dr. D.W., Selecting Nearly Optimal Sampling Locations Throughout an Area, No. 3, p. 46. *Various types of environmental assessment are completed by taking an array of samples throughout an area. Approaches for obtaining sampling grids that are nearly optimal are discussed and one example is presented in detail.* (CC Cleanliness Operation/Procedures, Criteria and Standards, Identification, Measurement, and Monitoring)

Coveney, D.B., Climatic Engineering, No. 1, p. 70. *Facilities at Canada's National Research Council for Research into the effects of climate on engineering equipment are described.* (DTE Climatics and Thermal, Design/Test Tailoring)

Cowan, W., Executive Panel Discussion on ESS, 5th National Conference and Workshop on Environmental Stress Screening of Electronic Hardware, No. 1, p. 34. *Representatives from three major military services reestablished their support for ESS of military systems, as well as long-standing challenges for improvement.* (PR Acquisition Policies, Stress Screening)

Crow, L., Panel Discussion: Environmental Stress Screening Guidelines for Assemblies, 1990 36th Annual Technical Meeting, New Orleans, Louisiana No. 5, p. 33. "Increasing Technical and Cost Effectiveness of ESS: Roadblocks and Future Issues" was the topic addressed by the panel. (PR Acquisition Policies, Criteria and Standards, Stress Screening)

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Dasgupta, A., Reliability Prediction of Electronic Packages, No. 3, p. 36. *This article provides an overview of the state-of-the art in generating analytical models for fatigue life estimation due to mechanical wear-out and examines the applicability of these models in the reliability prediction of electronic packages.* (CA Environmental Modelling/Analysis; DTE Climatics and Thermal, Shock and Vibration; PR Reliability Growth/Performance)

Delmont, M., Reliability Improvement of Power Inverters Through Environmental Stress Simulation, No. 5, p. 24. A *case study of the use of environmental stress simulation to qualify commercially developed items to stricter military reliability requirements is presented. The system offered as an example is the static inverter adapted for use by the AN/TLQ-17A(V)3 Traffic Jam System.* (DTE Shock and Vibration, Design/Test Tailoring; PR Reliability Growth)

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Grant, D.C., Measurement of Particle Concentrations in Central Chemical Delivery Systems, No. 4, p. 32. *This article evaluates recently developed high sensitivity optical particle counters for measuring particle concentrations in high purity semiconductor process chemicals.* (CC Identification, Measurement, and Monitoring, Sources and Effects)

Gratt, L.B., Air Toxic Risk Assessment, No. 2, p. 74. *The value of pollution control for toxicants is addressed from a risk benefit methodology. Risks are estimated using a computerized methodology developed for the electric utility industry.* (CA Environmental Modelling/Analysis; EE Air Quality, Environmental Planning/Management)

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Hammond, W.K., Stress Screening of Electronic Modules, No. 2, p. 60. (Abstract—see Kallis, J.J.)

Hearn, B., The Impact of CFC Regulations on the Refrigeration Compressors Used in Environmental Test Chambers, No. 6, p. 27. *Topics discussed include Ozone Depletion Level, Ozone Depletion Potential versus Global Warming Potential, the Montreal Protocol, the CFC excise tax, new refrigerants, process substitution, recycling, improved service techniques, destruction, and equipment modification.* (EE Air Quality, Environmental Planning/Management, Policy/Regulations)

Hecht, L., Particle Adhesion to Solid Surfaces, No.2, p. 33. *This article presents an up-to-date overview on the subject of particle adhesion to solid surfaces.* (CC Sources and Effects)

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Kallis, J.M., Stress Screening of Electronic Modules, No. 2, p. 60. *A study was conducted to investigate the effects of temperature rate of change on the environmental stress screening of printed wiring assemblies.* (DTE Solar and Space Simulation, Design/Test Tailoring; PR Stress Screening)

Koontz, S.L., Materials Selection for Long Life in Low Earth Orbit, No. 2, p. 50. *The use of thermal atom test methods as a materials selection and screening technique for low-earth orbit (LEO) spacecraft is critically evaluated.* (DTE Solar and Space Simulation, Design/Test Tailoring)

Kreikebaum, G., Sub 0.1 Micron Particle Detection and Analysis Using High Sensitivity Nephelometry, No. 4, p. 19. *This article describes the principles of operation of a novel approach to liquid nephelometry.* (CC Identification, Measurement, and Monitoring)

Kwok, W.K., Characterization of Cleanroom Wipers: Particle Generation, No. 6, p. 33. *Test results on particle generation by various recommended test methods with different types of commercial and experimental wipers are described.* (CC Cleanroom Design/Materials, Identification, Measurement, and Monitoring, Sources and Effects)

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Maag, C., Internal Contamination in the Wide Field/Planetary Camera, No. 3, p. 29. *Detailed analyses were conducted to assess the formation of a haze discovered on the corners of the Wide Field/Planetary Camera aperature window. The camera was one of five science instruments integrated into the Hubble Space Telescope.* (CC Identification, Measurement, and Monitoring, Sources and Effects; DTE Solar and Space Simulation)

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Morris, S.F., Use and Application of MIL-HDBK-217, No. 6, p. 40. *Many of the most frequently asked questions pertaining to reliability predictions and MIL-HDBK-217 are presented* (PR Criteria and Standards)

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Nagarajan, Dr. R., Surface Properties and Cleanability: A Rational Correlation, No. 1, p. 26. *A predictive procedure to rank various materials with respect to their maximum cleaning potential and their first-stage cleanability is presented.* (CC Cleanliness Operation/Procedures, Criteria and Standards, Identification, Measurement, and Monitoring)

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Oxford, D., Panel Discussion: Environmental Stress Screening Guidelines for Assemblies, 1990 36th Annual Technical Meeting, New Orleans, Louisiana No. 5, p. 33. *"Increasing Technical and Cost Effectiveness of ESS: Roadblocks and Future Issues" was the topic addressed by the panel.* (PR Acquisition Policies, Criteria and Standards, Stress Screening)

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Patterson D.O., Executive Panel Discussion on ESS, 5th National Conference and Workshop on Environmental Stress Screening of Electronic Hardware, No. 1, p. 34. *Representatives from three major military services reestablished their support for ESS of military systems, as well as long-standing challenges for improvement.* (PR Acquisition Policies, Stress Screening)

Pecht, M., Reliability Prediction of Electronic Packages, No. 3, p. 36. (Abstract—see A. Dasgupta)

Peterson, R.V., Correlation Studies on Surface Particle Detection Methods, No. 2, p. 66. *The determination of dust levels on optical surfaces in order to assess sensor system performance is described. A comparison study was made on several particle measurement methods including those based on direct imaging and light scattering.* (CC Cleanliness Operation/Procedures, Identification, Measurement, and Monitoring; DTE Solar and Space Simulation)

Poynor, S.P., Air-to-Air Missile Airframe Captive Flight Vibro-Acoustic Environment, No. 4, p. 44. *Ground simulation and captive flight tests were conducted on an air-to-air missile airframe. Both internal, at subsonic and transonic speeds, and conformal, at supersonic speeds, were tested for the missile/FB-111 combination.* (DTE Acoustics, Shock and Vibration, Design/Test Tailoring)

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Silver, W., A Captive Store Flight Vibration Simulation Project, No. 3, p. 21. (Abstract—see E.A. Szymkowiak)

Slingerland, F., Acoustic Design of Large Reverberant Chambers, No. 5, p. 19. This article provides design information on the calculation of noise input power requirement; sound field uniformity; acoustic fatigue of chamber; noise breakout and soil vibration; and future trends in design. (CA Environmental Modelling/Analysis; DTE Acoustics)

Solomon, Dr. H.D., Influence of Temperature on the Fatigue of CC/PWB Joints, No. 1, p. 17. *A study of the low cycle fatigue of chip carrier/printed wiring board joints tested at –55°C and 125°C is contrasted with a previous study where joints were tested at 35°C.* (DTE Climatics and Thermal)

Srinivasan, Dr. V., Selecting Nearly Optimal Sampling Locations Throughout an Area, No. 3, p. 46. (Abstract—see Dr. D.W. Cooper)

Stepien, T.M., An automated System for Contamination-Controlled Processing of Precision Instruments, No. 1, p. 80. *The design and assembly of an automated system for the cleaning and assembly of precise electromechanical instruments in a cleanroom environment are described.* (CA Environmental Control/Monitoring; CC Cleanroom Design/Materials, Cleanliness Operation/Procedures)

Summers, J.T., Characterization of Cleanroom Wipers: Particle Generation, No. 6, p. 33. (Abstract—see W. K. Kwok)

Szymkowiak, E.A., A Captive Store Flight Vibration Simulation Project, No. 3, p. 21. *An AN/ALQ-131 electronic countermeasures external store, captive to an F-111F aircraft, was used as a test bed. The project included flight vibroacoustic data acquisition and reduction, development of a simulation approach designed to secure a high degree of matching field and laboratory environments, flight life simulation in the laboratory using a time compression factor of 20.5 to 1, and comparison of field and laboratory reliability.* (DTE Criteria and Standards, Shock and Vibration, Design/Test Tailoring)

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Vasiliou, P.K., Lessons Learned in Vibro-Thermal Acoustic Tests, No. 5, p. 48. An environmental test technique developed to test missiles at the Pacific Missile Test Center at Point Mugu, California, is described. This technique recreates a captive flight environment in which the missile is simultaneously subjected to thermal, vibration, and functional testing. (DTE Climatics and Thermal, Shock and Vibration, Design/Test Tailoring; PR Acquisition Policies)

Victor, S., Panel Discussion: Environmental Stress Screening Guidelines for Assemblies, 1990 36th Annual Technical Meeting, New Orleans, Louisiana No. 5, p. 33. "Increasing Technical and Cost Effectiveness of ESS: Roadblocks and Future Issues" was the topic addressed by the panel. (PR Acquisition Policies, Criteria and Standards, Stress Screening)

Viner, A.S., Model Study of Contaminant Flow in the Vicinity of Semiconductor Processing Equipment, No. 4, p. 25. (Abstract—see T. Yamamoto)

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Weigel, K., The Challenge of Replacing Chlorofluorocarbons in Industry, No. 6, p. 23. *Topics include the status of CFC regulations and the replacement of CFC-based solvents, refrigerants, and blowing agents.* (EE Air Quality, Environmental Planning/Management, Policy/Regulations)

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Willoughby, W.J., Executive Panel Discussion on ESS, 5th National Conference and Workshop on Environmental Stress Screening of Electronic Hardware, No. 1, p. 34. *Representatives from three major military services reestablished their support for ESS of military systems, as well as long-standing challenges for improvement.* (PR Acquisition Policies, Stress Screening)

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Yamamoto, T., Model Study of Contaminant Flow in the Vicinity of Semiconductor Processing Equipment, No. 4, p. 25. *A continuous particle monitoring system was set up to identify short-term particle bursts that reflect equipment operation and personnel activity within the photolithography bay of a cleanroom.* (CC Cleanroom Design/Materials, Identification, Measurement, and Monitoring)